Wildlife Notes—175-20

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CANADA GOOSE

The lines and vees of geese come south from the tundra. The birds pass over Pennsylvania each fall, some traveling by day, others winging across night skies. Their flight can be high--so high that their incessant calls do not reach earth--or low enough that the honking carries clear as church bells on a frosty morning.

The lines and vees may be long and undulating, or tight and strong and symmetrical. They are probably led by old ganders who know the way south. Following these leaders, the geese fly down the long, funneling paths to the wintering grounds--an ancient rite of autumn which will be reversed in spring. Geese were migrating in this manner before men walked across the Bering Strait onto the continent.

Biology

The Canada goose *(Branta canadensis)* is a member of Order Anseriformes, Family Anatidae, a large group comprising all North American waterfowl. Waterfowl are further divided into seven subfamilies, one each for swans and geese, and five for ducks.

by Chuck Fergus

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Canada geese belong to subfamily Anserinae. They are closely related to emperor, snow, blue, Ross's, and white-fronted geese, and brants. Canada geese occur in 10 different races or subspecies, which differ in size and color. Smallest is the Cackling Canada goose (weight, about 3 pounds); largest, the Giant Canada goose (11-13 pounds). The races interbreed, making positive identification difficult. Most geese seen in Pennsylvania are members of the *interior* race *(Branta canadensis interior).* As a group, Canada geese are often referred to as "honkers."

Geese are large, plump birds with long necks, short wings, a broad, round-tipped bill, and short legs. Their legs are set farther forward than those of ducks or swans; this adaptation permits them to walk and graze on dry land. The feet are webbed between the three front toes. Adult males, or ganders,

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of the *interior* race average 36 inches in length and weigh approximately nine pounds. Females and immatures are a bit smaller and lighter.

Honkers are marked black, white, and gray. Both sexes look alike. The bill, head, neck, legs, feet, and tail are black; there is a broad white cheek-and-chin patch; the upper body is gray-brown. Flanks and underwings are a lighter gray, as are the breast and belly, which are also faintly barred. Geese have large amounts of down--fluffy feathers close to the body which create insulating dead air space--to keep them warm in cold weather.

Grazing birds, geese feed on wild and cultivated plants. They eat rhizomes, roots, shoots, stems, blades, and seeds. Foods: widgeon grass, pondweed, eelgrass, spike rush, American bulrush, cordgrass, glasswort, algae, grass, clover; and wheat, millet, corn, barley, and rye. They can damage cultivated crops, particularly young shoots of fall-planted wheat. Animal matter isn't a major part of their diet, although they sometimes eat insects, crustaceans, and snails.

When feeding in shallow water, geese tip their bodies, dip their heads under, and pull up vegetation. On land, they feed in groups--and at least one member of the party always has its head up, looking for danger. Geese generally move in patterns to feed. Each day about dawn, they leave the water--river, pond, lake, impoundment, or whatever--fly to feeding areas, and feed for two or three hours. Then they return to the water, rest, and fly out to feed again in the evening. On such forays they fly from a few hundred yards to over 20 miles, depending on availability of food.

Geese are intelligent and wary. Their vision is sharp and their hearing keen, and these senses are multiplied when the birds are in flocks. In regions where they are hunted, they quickly learn locations and boundaries of refuges where they're protected.

A honker usually runs along the surface of the water or ground to gain lift for takeoff, though when surprised can jump into flight as puddle ducks do. Once aloft, its flight may appear slow and labored--perhaps because of the bird's slow, deep wingbeats and large size--but actually it can reach 45-60 m.p.h. In flight, geese sound their distinctive "honking" calls; when feeding, they make a gabbling sound, and when angry, they hiss.

In spring, honkers are among the first waterfowl to breed. Unmated males fight for females; the males approach each other with necks lowered and extended, hissing loudly, pecking, and flailing with their powerful wings. Individuals of both sexes usually mate for the first time in their second or third year. The pair stays together as long as both are alive and healthy; if either dies, the other usually seeks out a new mate.

Geese nest in a wide variety of habitats. They like sites that afford an open view. These include islands in rivers and lakes, the tops of muskrat houses in large marshes, rocky cliffs, abandoned osprey and heron nests, artificial nesting structures, and grassy fields near water. The female usually selects the site

and builds the nest. Nests are typically ground depressions lined with sticks, cattails, reeds, and grasses. A central cup may be lined with down, which the female plucks from her breast. Outside dimensions of nests vary from 17-48 inches, with 25 inches the average. Inside diameter of the central cup is 9-11 inches, and the nest may be 3-6 inches deep.

The female lays 4-10 eggs (usually 5-6). Geese nesting for the first time generally lay fewer eggs than older birds. The eggs are creamy white and unmarked at first, either smooth or with a slightly rough texture; as time passes, they become stained. Incubation averages about 28 days. The gander does not sit on the eggs but is always nearby, guarding and defending the nest and surrounding territory. To avoid detection on the nest, a goose will crouch, extend her neck, and remain still. Although geese are gregarious from late summer through winter, nesting adults dislike crowding.

Brood success has been estimated at about 70 percent (i.e., of every 100 nests, 70 will produce young). Flooding, overcrowding and accompanying nest desertion by parents, and predation cause nest failure. Raccoons, opossums, and skunks destroy eggs; foxes and owls prey on goslings.

Population

The range of the Canada goose blankets the U.S. and most of Canada. There probably are more honkers on the continent today than when the Pilgrims landed; like certain other wildlife species--blackbirds, crows, woodchucks, and white-tailed deer--honkers have benefitted from increased agricultural production. Geese feed abundantly on grains and cereal crops on their migration and wintering grounds. Geese on the Atlantic Flyway now rely more on crops than on aquatic plants.

Early this century, the Canada goose population had dropped dangerously as a result of unrestricted market hunting on the species' wintering grounds and migration routes. Fortunately, strict law enforcement, wildlife management

practices, and increased farming have reversed this trend. The resulting increase in the goose population rivals the comebacks of the eastern wild turkey and white-tailed deer.

During the 20 years from 1955-74, the numbers of geese on the Atlantic, Mississippi, and Central flyways are believed to have increased by about 138, 169, and 70 percent respectively, while populations on the Pacific Flyway fell 10 percent. In 1974, an estimated 2,140,000 geese remained on the continent after hunting seasons closed.

Biologists feel that the species was able to come back strongly because the birds were widely distributed in remote areas, and that the main breeding grounds--arctic and subarctic Canada west into Alaska--were stable and unexploitable. Whether these lands will remain secure is not known.

Geese are migratory birds and fall under the jurisdiction of the federal government's U.S. Fish & Wildlife Service. This agency monitors the population and sets the framework for annual seasons and bag limits.

Habitat

Landowners interested in attracting migrating geese can leave portions of crops unharvested. Good foods are barley, wheat, rye, brome, and orchard grasses, and corn. In feeding studies conducted on an Illinois wildlife refuge, cornfields attracted 41 percent of all geese observed, while small grains brought in 24 percent, pasture 22 percent, soybeans 9 percent, and wheat stubble and lespedeza 4 percent. Geese generally will not land close to fencerows, woodlots, houses, or barns. Strips of corn alternating with wide grass fields often will draw flights.

Geese are quite mobile--willing and able to fly great distances to find food and resting areas. Grazing birds, they are generally more landbased than ducks, especially when goslings are growing.

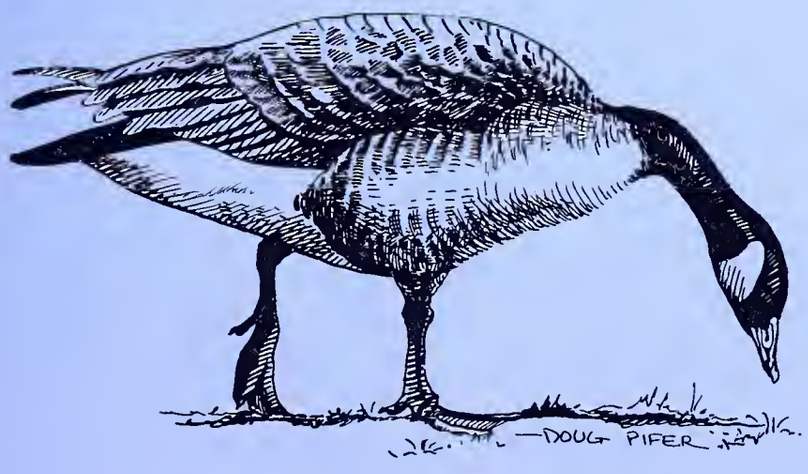
Breeding habitat is tremendously variable; they do well in open fields near water, on islands, rocky cliffs, etc. Artificial nesting structures--tubs secured to trees, old tractor tires placed on islands, or platforms built over water--may attract resident honkers. Geese raise families in city parks, reservoirs, and farm ponds, although the vast majority breed in the Far North.

Goslings are precocial. Their eyes are open, they are covered with a fine, brown fuzz, and they're able to walk and swim soon after they hatch. They leave the nest from several to 24 hours after hatching. Both parents stay with the goslings, and the female broods them nightly for about a week, and then less often. When young are half-grown, their parents begin to molt. Adults lose their flight feathers and are grounded for about three weeks; during this time, the goslings are growing their own flight feathers, so parents and young are able to fly at about the same time.

As the days shorten toward autumn, geese prepare to migrate. Family groups gather in small flocks, leave the breeding grounds, and fly leisurely to staging areas along the route south. Migrating geese travel by day or night, flying until tired and then landing to feed and rest.

Honkers fly in vees or occasionally in single, diagonal lines. Since flocks on the ground are dominated by an old gander, some authorities speculate that the migration vees are also led by a dominant male. A trailing goose encounters less air resistance, thus uses less energy, because of the turbulence set up by the bird flying just ahead.

Flight altitudes vary with weather conditions, distance to be flown, and time of year. In heavy overcast, honkers may fly only a few hundred feet off the ground; under fair skies, they tower up almost a mile. An average derived from airplane pilots' reports is 2000 feet, with 64 percent between 750 and 3500 feet (this was for fall migration; during spring, altitudes average a bit lower). Geese fly high over long distances, lower for short hops.



About 40 percent of North American Canada geese migrate along the Atlantic Flyway. The other 60 percent are divided among the Mississippi, Central, and Pacific flyways. Geese in the eastern half of Canada--from arctic and subarctic regions of the Northwest Territories east to Baffin Island--fly south through Manitoba, Ontario, and Quebec. The flyway funnels into New England, Pennsylvania, and the Chesapeake Bay. Geese of the Atlantic Flyway winter primarily in Delaware, Maryland, Virginia and North Carolina. In recent years, many Canada geese have left the Deep South wintering habitat and now winter in great numbers in the Del-Mar-Va area; some flocks winter as far north as Maine.

In spring, honkers retrace their routes to ancestral breeding grounds. Migrating flocks are composed of several family units, parents and offspring of the previous year, but the yearlings leave their parents shortly after arrival. Adults usually nest in the same locale year after year, some even using the same nest foundation. Today, however, increasing numbers of geese do not migrate north from the mid-Atlantic and southern states, preferring to stay and raise broods there. (Wildlife biologists say this often occurs where they've been introduced as goslings.)

In Pennsylvania, geese are common spring migrants in late February, March, and early April, with stragglers into May. In summer, resident flocks breed here; strong concentrations exist in Game Commission waterfowl areas such as Pymatuning and Middle Creek, as well as other suitable habitat in the state. In fall, honkers are common September-November migrants. If the winter is mild, some stop in the southeastern portion of the state, although most go farther south.

Because they're big, strong, and aggressive, geese are less subject to predation than most other waterfowl. Hawks and owls prey on immatures and some adults, and snapping turtles, snakes, and land-based predators take goslings which stray from their parents' protection. Disease, parasites, and accidents also take their toll, and annual mortality ranges from 32-52 percent. Geese have potential lifespans of 15-20 years.

WILDLIFE NOTES AVAILABLE

175-1 Squirrels (Gray, red, fox and flying squirrels)

175-2 Ruffed Grouse

175-3 Bobcat

175-4 Cottontail Rabbit

175-5 Red and Gray Foxes

175-6 Woodchuck

175-7 The Varying Hare (Snowshoe Rabbit)

175-8 The Night Hunters: Owls (Barn, great horned, snowy, barred, long-eared, short-eared, screech, and saw-whet owls)

175-9 Raccoon

175-10 Raptors (Goshawk; sharp-shinned, Cooper's, red-tailed, red-shouldered, broad-winged, rough-legged hawks; harrier, peregrine, merlin and kestrel)

175-11 Otter

175-12 Crows & Ravens

175-13 Woodpeckers

175-14 Beaver

175-15 Bobwhite

175-16 Heron Family

175-17 Wild Turkey

175-18 Dove

175-19 Ring-Necked Pheasant

175-20 Canada Goose

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